

8/pets

10/540935

JC20 Rec'd PCT/PTO 29 JUN 2009

- 1 -

DESCRIPTION

DEVICE FOR STORING ARTICLE FOR PROTECTING AUTOMOBILE BODY

Technical Field

5 The present invention relates to a device for storing within an automobile body by electric power an article mounted for protecting the automobile body when it is not necessary to protect the automobile body.

10 Background Art

Hitherto, in order to protect an automobile body, rubber or metal is directly mounted and secured to the automobile body.

However, this method has the following problems:

15 (A) Since an article which protects an automobile body is secured in a protruding manner to the automobile body, it is not possible to choose between using the article when it is required and not using the article when it is not required.

20 (B) Since there are constraints to the design for mounting an article which protects the automobile body in relation to the design of the automobile, rubber or metal cannot be mounted to a portion requiring protection.

 (C) Therefore, when a person gets in or out of an
25 automobile in a parking lot of, for example, a supermarket,

a collision accident occurs with a door of another automobile.

The present invention is achieved to overcome these problems.

5

Disclosure of Invention

The present invention provides a device for storing within an automobile body by electric power an article having an article for protecting the automobile body mounted thereto and being of the same quality as the automobile body.

A description of an embodiment of the present invention will hereunder be given.

(A) The embodiment provides a structure in which, as shown in Fig. 17, in order to protect an automobile body, an article mounted to and having the same material as the automobile body is rotated and stored, and the automobile body and the article having the same material as the automobile body are integrated.

(B) The embodiment provides a structure in which the article having the same material as the automobile body is rotated and stored by electric power.

When the present invention is carried out using the above-described structures and it is necessary to protect the automobile body when, for example, the automobile is parked, a single-purpose motor is operated with a remote

controller or a panel switch in the automobile in order to rotate the article having the same material as the automobile body and secure it in a state in which the automobile body is protected.

5 When the automobile body does not need to be protected, the article mounted for protecting the automobile body is stored within the automobile body.

As shown in Fig. 16, articles are mounted to portions of the automobile body that require protection, the sides, 10 the left and right front portions, and the left and right rear portions of the automobile.

The articles mounted for protecting the automobile body are moved horizontally and are stored by electric power.

Hitherto, since the articles for protecting the 15 automobile body are secured in a protruding manner to the automobile body, a driver cannot choose between using the articles when they are required and not using the articles when they are not required. However, the present invention makes it possible to install by electric power the articles 20 mounted for protecting the automobile body when the driver needs to protect the automobile body.

When the automobile body does not need to be protected, the articles can be stored. Hitherto, since there are constraints on the design for mounting an article, which 25 protects the automobile body, in relation to the design of

the automobile, the article cannot be mounted to a portion of the automobile body requiring protection. In contrast, the present invention makes it possible to mount an article to any portion of the automobile body requiring protection.

5 In addition, the related constraints on the design no longer exist, in particular, the design of the front and rear bumpers no longer needs to be such that the bumpers be linearly disposed with articles installed on the sides for protecting the automobile body. Therefore, the design is
10 considerably improved.

Brief Description of the Drawings

Fig. 1 is a partial enlarged side view of the present invention, and Fig. 2 is a sectional view of the present
15 invention.

Figs. 3, 4, 5, 6, and 7 are perspective views of the present invention, and Fig. 8 is a sectional view of the present invention.

Fig. 9 is a perspective view of the present invention,
20 and Fig. 10 is a partial enlarged perspective view of the present invention.

Fig. 11 is a partial perspective view of the present invention, and Fig. 12 is a partial perspective view of the present invention.

25 Fig. 13 is a partial perspective view of the present

invention, and Figs. 14 and 15 are front views of the present invention.

Fig. 16 illustrates an embodiment of the present invention, and Fig. 17 is a process drawing of the present invention.

Best Mode for Carrying Out the Invention

The present invention will be described in more detail with reference to the attached drawings. Fig. 1 is a partial enlarged side view of the present invention in which a rotary shaft 3 and an article 1 for protecting an automobile body are mounted to an article 2 having the same material as the automobile body. The article 2 having the same material as the automobile body is made the same as the automobile body or made similarly with a lightweight material while the article 1 for protecting the automobile body is protecting the automobile body or is stored in the automobile body. The rotary shaft 3 is connected to a device for installing by electric power the article 1 for protecting the automobile body into a state in which the article 1 protects the automobile body and into a state in which the article 1 is stored in the automobile body. The article 1 for protecting the automobile body may be formed of rubber, metal, plastic, or any other various materials for protecting the automobile body, or may be formed of a

combination of these materials.

Fig. 2 is a sectional view of the present invention in which what is shown in Fig. 1 is mounted to an automobile body 4. Fig. 3 shows a state in which the article 1 for
5 protecting the automobile body is installed into the state in which it protects the automobile body, and Figs. 4, 5, and 6 show a state in which it is rotated and being stored. Figs. 7, 8, and 9 show the state in which the article 1 for protecting the automobile body is stored within the
10 automobile body.

Fig. 10 shows the rotary shaft 3, and Figs. 11, 12, and 13 are partial perspective views of the present invention.

Fig. 14 is a front view showing the state in which the article 1 for protecting the automobile body protects the
15 automobile body, and Fig. 15 is a front view showing the state in which the article for protecting the automobile body is stored in the automobile body.

Fig. 16 shows an embodiment of articles 5 of the present invention at which devices for storing articles 1
20 for protecting the automobile body in accordance with the present invention are mounted to the sides and corners of the automobile.

An article for protecting the automobile body is stored in the automobile body on the basis of the process drawing
25 shown in Fig. 17. Thereafter, rotating the article 2 having

the same material as the automobile body causes the article to be installed in the state in which it protects the automobile body.

In another embodiment, a device for horizontally moving
5 and storing an article for protecting the automobile body is provided.

Industrial Applicability

Accordingly, when an automobile is parked, the device
10 for storing an article for protecting an automobile body according to the present invention makes it possible for the article for protecting the automobile body to serve as a device for protecting the automobile body by installing the article into the state in which it protects the automobile
15 body. In addition, the storing device makes it possible for the automobile to run safely because there is no longer a protruding portion when the storing device stores the article for protecting the automobile body. Further, it is possible to use a design which could not have been hitherto
20 used.

A production method in accordance with the present invention produces body parts of an automobile except a part to which an article for protecting an automobile body is mounted. Thereafter, the device for storing an article for
25 protecting the automobile body is mounted, so that the

assembly of the automobile body is completed.

The present invention is carried out by rotating the device for storing an article for protecting the automobile body by electric power with a switch located inside the
5 vehicle or with a remote controller when an automobile is parked. In addition, it is carried out by storing the article for protecting the automobile body when the automobile is running or in any other state.